

Technology

This case study provides an example of how the application of Geographic Information Systems (GIS) can improve the assessment and communication of potential environmental impacts.

Project: US Visitor and Immigrant Status Indicator Technology (US-VISIT) Program Geographic Information System

Agency: US-VISIT Program Management Office

Involved Parties: Customs and Border Protection, General Services Administration, Fish and Wildlife Service

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Dates: *Began:* 2001 *Ended:* Ongoing

Project Description: The former Immigration and Naturalization Service (INS) was charged with the mission of implementing a new entry and exit system to record the arrival and departure of non-US citizens along the nation's borders. In 2003, this legacy INS program was transferred to the Department of Homeland Security and established under the current US-VISIT Program Management Office. In order to plan for a program that had the potential to impact all of the nation's ports of entry, the team established a comprehensive geographic information system that includes aerial photography of all of the land ports and environmental baseline data on numerous resource areas including wetlands, air quality, endangered species, and socioeconomics. This system was planned and initiated when program requirements were uncertain and the potential impacts were unknown. The primary value of the system for NEPA purposes is its ability to provide environmental baseline data that can be assessed for potential impacts under an unlimited number of alternative scenarios. Its utility as a planning tool continues to grow as mission and program requirements are further defined. The use of a database system allows the entire system to be dynamic and evolve along with the project. The GIS system is also important for NEPA purposes because it is an interactive tool that allows the decision-maker and interested stakeholders to see actual representations of potential impacts and alternatives.

Value as a Practice:

Results: Provides a comprehensive planning tool with the capability to develop alternatives and manage design and program concepts in a way that avoids or mitigates environmental impacts. The GIS facilitates outreach because it allows information sharing through visual presentations that

improve communication of concepts and ideas. It also allows for the analysis of potential environmental impacts on an ecosystem wide basis and therefore can improve the assessment of potential cumulative impacts.

Challenges Overcome: Funding constraints, aggressive time frames, compilation of data from diverse sources into a common format, diverse interagency requirements and coordination, and technical solutions for data deployment were challenges that were successfully overcome to implement this requirement.

Challenges Remaining: The US-VISIT Program must develop mechanisms to allow for maximum information sharing while ensuring the integrity and protection of potentially sensitive data. Information security is particularly important to US-VISIT because it is a national security program. Maintaining a commitment to public outreach and open dialogue while ensuring the protection of sensitive data will remain an ongoing challenge. In addition, maintaining the currency and accuracy of data as on the ground conditions change over time will be a challenge.